

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number
WO 2005/070855 A1

(51) International Patent Classification⁷: **C07C 29/151**,
51/12, 53/08, 67/05, 69/15

(21) International Application Number:
PCT/CY2004/000002

(22) International Filing Date: 22 January 2004 (22.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **ACETEX
(CYPRUS) LIMITED** [CY/CY]; Nicolaou Pentadromos
Centre, Office 908, Block A, P.O. Box 50123, Limassol
3601 (CY).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **THIEBAUT, Daniel,
Marcel** [FR/FR]; 1, Impasse Jean Racine, F-64230 Lescar
(FR).

(74) Agent: **SOTERIOU-LOIZIDOU, Lina**; Chrysses Deme-
triades & Co, 284, Arch. Makarios Avenue, Fortuna Court,
Block B, Limassol 3105 (CY).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: INTEGRATED PROCESS FOR ACETIC ACID AND METHANOL

(57) Abstract: An integrated process for making methanol, acetic acid, and a product from an associated process is disclosed. Syn-
gas (120) is produced by combined steam reforming (109) and autothermal reforming (118) of natural gas (102) where a portion
(112) of the natural gas bypasses the steam reformer (109) and is blended with the steam reformer effluent for supply to the autother-
mal reformer (ATR) (118) with CO₂ recycle (110). A portion of the syngas is fed to CO₂ removal (122) to obtain the recycle CO₂
and cold box (130) to obtain a hydrogen stream (131) and a CO stream (135). The remaining syngas, hydrogen stream (131) and
CO₂ from an associated process are fed to methanol synthesis (140), which produces methanol and a purge stream (124) supplied to
the CO₂ removal unit. The methanol is supplied to an acetic acid unit (13)6 with the CO (135) to make acetic acid, which in turn is
supplied to a VAM synthesis unit (148). Oxygen for both the ATR and VAM synthesis can be supplied by a common air separation
unit (116), and utilities such as steam generation can further integrate the process.



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